Chapter 1

THE POPULATION HEALTH PROMISE

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Executive Summary

The population health promise is to promote health and prevent disease; the strategy is to create an epidemic of health and wellness.

The Patient Protection and Affordable Care Act (ACA) of 2010 codified and set in motion an array of programs and initiatives aimed at improving the health of the U.S. population. Although considerable progress is being made on many fronts—from making health insurance accessible to more Americans to increasing accountability for and quality of healthcare delivery and services—the need for population health management continues to be urgent.[1]

Population health refers broadly to the distribution of health outcomes within a population, the health determinants that influence distribution, and the policies and interventions that affect those determinants.[2,3] Accordingly, population health is holistic in that it seeks to reveal *patterns and connections* within and among multiple systems and to develop approaches that respond to the needs of populations. Population health tactics include rigorous analysis of outcomes. Understanding population-based patterns of outcomes distribution is a critical antecedent to addressing population needs in communities (i.e., patterns inform the selection of effective population health management strategies to diminish problems and develop approaches to prevent reoccurrence in the future).

Convened by the National Quality Forum in 2008, the National Priorities Partnership addressed four major healthcare challenges that affect all Americans: eliminating harm, eradicating disparities, reducing disease burden, and removing waste.[4] One of the

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six priorities identified to address these challenges is *improving the health of the population.* While ambitious, this goal is fundamental to healthcare reform. Improving the health of the population will require improved efforts to provide health insurance coverage, promote healthy behaviors, and prevent illness. The "silos" in healthcare delivery must be dismantled, and providers must work cooperatively to advance seamless, coordinated care that traverses settings, health conditions, and reimbursement mechanisms. Interdisciplinary teams of healthcare providers committed to diligent management of chronic conditions and providing safe, high-quality care will play a central role. Policy makers will be called upon to craft policies that support illness prevention, health promotion, and public health, and healthcare professionals must continue their efforts to enforce recommendations in communities. All of these efforts must align to promote health and wellness and to advance a new population health agenda. Population health is no longer a mere strategy—it is the solution that holds the greatest promise for creating *an epidemic of health and wellness.*

Learning Objectives

1. Explain the concept of population health.
2. Recognize the need for a population health approach to healthcare education, delivery, and policy.
3. Discuss the integration of the four pillars of population health.
4. Utilize this text as a resource for further population health study and practice.

Key Terms

chronic care management	patient safety
health policy	population health
healthcare quality	population health management
National Priorities Partnership	public health

INTRODUCTION

Although the term **population health** is not new, there is no clear consensus on a single definition. In the evolving U.S. healthcare environment, where the need for positive change is evident and ongoing, population health is viewed across constituencies as a promising solution for closing key gaps in healthcare delivery. In the context of this text, population health is defined as the distribution of health outcomes within a population, the health determinants that influence distribution, and the policies and interventions that affect the determinants.[2,3]

Population health embraces a comprehensive agenda—the healthy and unhealthy, the acutely ill and chronically ill, and the clinical and nonclinical as well as the public sector

and private sector. While there are many determinants that affect the health of populations, the ultimate goal for healthcare providers, public health professionals, employers, payers, and policy makers is the same: healthy people comprising healthy populations that create productive workforces and thriving communities.

Population health is both a concept of health and a field of study.[2] Populations can be defined by geography or grouped according to some common element (e.g., employees, ethnicity, medical condition). As the name implies, population health is inclusive of every individual and group, comprising a heterogeneous population that wears many labels. For example, a man of Mexican descent who works for a carpenters union may be a member of three different populations: the Mexican community, an employer's organization, and the carpenters union. To address needs at the population level, all of these associations must be considered.

As a field of study, attention must be given to multiple determinants of health outcomes, including medical care, public health interventions, and the social environment, as well as the physical environment and individual behaviors, and the patterns among each of these domains.[5] The purpose of this chapter and those that follow is to promote an understanding of population health, to encourage discussions and engagement of key stakeholders (healthcare providers, public health professionals, payers/health plans, employers, and policy makers), and to foster the development and dissemination of strategies aimed at improving population health.

THE CURRENT STATE OF POPULATION HEALTH

Health care in the United States is complex, and many would argue that its healthcare "system" bears little resemblance to a true system. Considering the characteristics of systems (e.g., interactivity of independent elements to form a complex whole, harmonious or orderly interaction, and coordinated methods or procedures), U.S. health care may well represent the antithesis.

Despite devoting more than 17% of its gross domestic product (GDP) to health care (projected to approach 20% by 2020),[6] the United States performs lower on five dimensions of performance (quality, access, efficiency, equity, and healthy lives) compared to similar developed countries, including Australia, Canada, Germany, the Netherlands, New Zealand, and the United Kingdom. The common element among the aforementioned nations is a universal healthcare delivery system, and some argue that the absence of universal health care in the United States explains the access disparities, inequity, and poor outcomes in addition to the exorbitant and uncontrolled costs.[7]

Unfortunately, the health status of the U.S. population does not reflect the high level of spending on health care. For example:

- Of adults ages 18 to 64 years, 14% reported that they did not receive needed medical care in 2011, and 11% indicated they did not get needed prescription drugs in the past 12 months because of their cost.[8]

- Major disparities exist based on socioeconomic status. Roughly 40 million[9] Americans are still uninsured, and 112 million Americans (almost half of the U.S. population, 45%) suffer from at least one chronic condition.[10]
- **Healthcare quality** is suboptimal and **patient safety** is lagging.[8,11]
- The public health system continues to be egregiously underfunded.[12]

The passing of the ACA and the subsequent phased implementation of a broad range of regulations and initiatives aimed at improving the health of the U.S. population have brought about some positive change; however, it will take many years before the benefits are realized on a population scale,[1] and the need for population health management remains urgent.

Because important advances in science and technology have contributed to increases in life expectancy of more than 30 years in the 20th century,[13] unprecedented growth in the population of older adults has introduced new pressures on healthcare providers, payers, and communities. Roughly two-thirds of Medicare recipients contend with two or more chronic conditions, and 16% deal with six or more. In 2010, 58% of Medicare Fee-for-Service beneficiaries had hypertension, 31% had ischemic heart disease, and 28% were diabetic.[14] Chronic conditions require frequent monitoring and evaluation, which places a strain on the healthcare system and makes the need for care coordination imperative. Traditionally, the United States has supported a "sick care" system bolstered by payment policies that reward both consumers and providers for health care that is sought primarily when acute illness strikes or in an emergency. While caring for the sick will always be an integral part of health care, true population health can be achieved only by placing an equal emphasis on health promotion and disease prevention.

POPULATION HEALTH DEFINED

Population health is the distribution of health outcomes within a population, the determinants that influence distribution, and the policies and interventions that affect the determinants.[2,3] These three key components—health outcomes, health determinants, and policies—serve as the foundation for this chapter and those that follow.

Health determinants, the varied factors that affect the health of individuals, range from aspects of the social and economic environment to the physical environment and individual characteristics or behaviors.[15] Although some of these factors can be controlled by individuals, some are external to an individual's locus of control. For example, individuals may be coached to adopt healthier lifestyles, thereby reducing their risk for lifestyle-related diseases (e.g., hypertension, diabetes, and smoking-related illnesses). The same individuals may be genetically predisposed to cardiovascular disease or may reside in geographic locations where exercise outdoors is unsafe or air quality is extremely poor—these health determinants are outside of their control.

Health determinants are a core component of the ecological model used in **public health** to describe the interaction between behavior and health.[16] The model assumes that overall health and well-being are influenced by interaction among the determinants of health.[17] Relationships with peers, family, and friends influence behavior at the interpersonal level. At the community level, there are institutional factors (e.g., rules, regulations) that influence social networks. At the public level, policies and laws regulate certain behaviors.[13] These variables have a cumulative effect on health and the ability of individuals and populations to stay well in the communities where they live, work, and play.

Interaction among the determinants of health leads to outcomes, the second component of the population health definition. Population- and individual-level disparities and risk factors exert significant influence on health-related outcomes. General health outcomes could be improved by assuring access to quality health care for all populations, regardless of insurance status, with a primary focus on health maintenance and prevention to decrease health risks. Policy development is one mechanism used to support population health management and improvement. Support and guidance for these efforts is provided by policies at local, state, and federal levels.

Population health is not synonymous with public health. In fact, public health is a core element of population health that focuses on determinants of health in communities, preventive care, interventions and education, and individual and collective health advocacy and policies. The principal characteristic that differentiates population health from public health is its focus on a *broad set of concerns* rather than on just these specific activities.[2] Population health efforts generate information to inform public health strategies that can be deployed in communities. The combination of information gathered to define problems and build awareness and the strategies to address needs comprises **population health management**.

Consider Wendy McDonald, a hypothetical community member whose situation illustrates the importance of considering multiple factors when using a population health approach. Wendy is obese and lives in a lower-income community where healthy food is unavailable. Safe neighborhood parks and recreation centers are lacking, making physical activity a challenge. Inadequate health insurance restricts her ability to receive primary medical care or guidance from a healthcare provider on how to manage her weight, and she is unaware of the disease risk factors it presents. The population health conceptual model suggests effective approaches to care delivery in such situations. A primary care practice in communities such as Wendy's could be reengineered as a patient-centered medical home that applies a comprehensive, integrated approach to disease and **chronic care management** and supports health promotion and disease prevention, which would lead to better short- and long-term health outcomes. A community-based population health approach to address Wendy's challenges might include adding green space for recreation and supporting healthy food options through tax credits to food stores that offer them. Underlying both of these approaches are policies that support community improvements, make health a priority that leads to better health outcomes, and may be shared with public health initiatives.

Donald Berwick, MD, president and CEO of the Institute for Healthcare Improvement (IHI), once remarked health care has no inherent value, health does. The population health promise requires a broader focus—one that encompasses health promotion and disease prevention as well as caring for the sick. Under the traditional healthcare model, individuals seek care to restore health when it is compromised and seek prevention primarily when they are fearful about potential loss of health. Under an aspirational model of health and wellness promotion, individuals would value their health and seek preventive care as a means to optimize it. Ultimately, the intrinsic reward of feeling well should be a major driver of population health in a true "culture of wellness."

FOUNDATIONS OF POPULATION HEALTH

THE SCIENCE

Health is a state of well-being; population health provides a conceptual framework for the study of well-being and variability among populations.[5,13] In the United States, the delivery of healthcare services receives the lion's share of health-related resources and attention, and yet it is only one of many contributors to and drivers of a population's overall health (e.g., the business and political communities). There is substantial, yet unrealized, opportunity to advance the population health agenda and to improve health through efforts focusing on personal behavior and health promotion within each of these spheres.[18]

The expectation that healthcare providers must care for *their* own patients in *their* own practice settings is rapidly changing as new models for affecting outcomes at the population level are introduced. Treatment of populations aims to increase recommended prevention and screening practices and improve adherence to recommended treatment in accordance with evidence-based, nationally recognized guidelines. These aims can be achieved only with teams of healthcare providers cooperating within and across settings. While one-at-a-time treatment has been the traditional approach to patient care, population-level interventions that integrate a set of common aims and standards are needed to support significant and sustainable health improvements in the United States. This effort has been aided by the adoption of electronic medical records and the promotion of their meaningful use to improve accessibility of actionable health information.[19]

Management of chronic disease is a key priority in population health. The fact that nearly half of all Americans have one or more chronic diseases is only partly explained by population growth and increases in longevity. The present and predicted burden of chronic disease is the strongest signal that current strategies for helping people get well, and stay well, are ineffective. The burgeoning population, and the prevalence of chronic illness that accompanies it, drives both cost and utilization of healthcare services and threatens Americans' progress in life expectancy.

There is ample evidence to inform population health improvement strategies, but processes remain poorly defined and success is variable. Although numerous national goals

for population health have been proposed and targeted outcomes have been defined, translating best practices into action is a daunting challenge. The Chronic Care Model is a well regarded conceptual model for guiding the development of effective programs to provide better chronic care to patients. The devil is, of course, in the details. Each of the six system components that comprise the Chronic Care Model (Patient Care and Practice Improvement Organization, Clinical Information Systems, Delivery System Design, Decision Support, Self-Management, and Community Resources) is covered in some detail in subsequent chapters of this text (Figure 1-1). The emerging understanding of what is required to build "cultures of health" will be of value, as will the recognition of complementary activities in support of an improved delivery process (e.g., social and environmental factors).[20]

The greatest contributor to premature death from preventable chronic illness is patient behavior. Of the six model components, the degree to which patients are informed and active is critical to improved patient outcomes. Informed, active patients are more likely to learn self-management strategies and to adopt healthy behaviors. Providers need an array of tools to effectively help patients manage their chronic conditions. Because they typically have neither the time nor the resources to consult the evidence base during a patient encounter, they need robust clinical decision support tools at the point of care. Further, providers need a reimbursement model that rewards appropriate interdisciplinary communication, collaboration, and follow-up, as well as access to interoperable
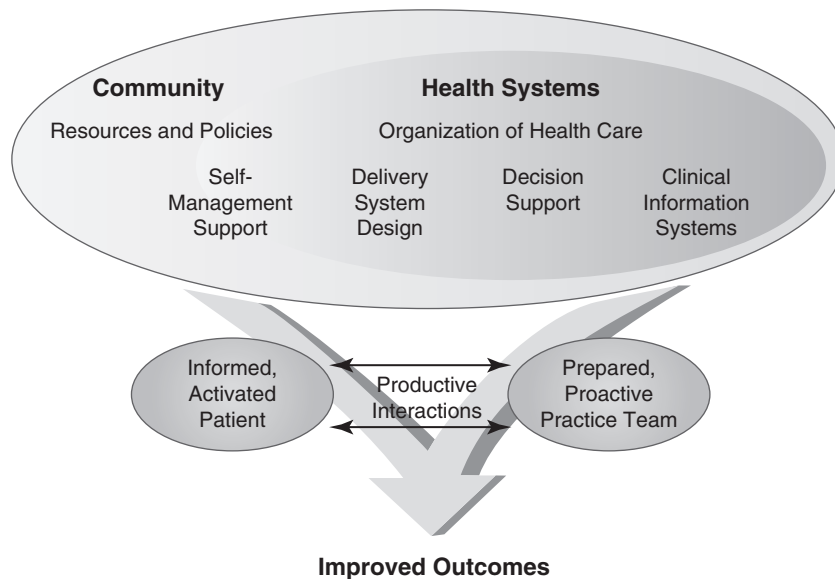
Figure 1-1   The chronic care model.

technologies that permit data sharing in real time. All of these components must be supported by clinical information systems that track progress in the management of chronic conditions. These practice-based components, combined with community efforts (e.g., community-wide screenings, in-home support for elderly persons, nutritious school lunch programs) and active participation of patients who productively interact with healthcare providers, will support effective, quality chronic care management while reducing health risks and costs.[21]

One of the greatest challenges to improving the population's health is translating evidence into practice. Two state initiatives provide examples of successful population health strategies in action:

- Vermont: State legislation supports efforts to provide high-quality care and control costs. The Vermont Department of Health implemented a Blueprint for Health, which focuses on improving health and the healthcare system through prevention. Early assessment of these efforts shows reductions in health expenditure trends and hospitalization rates.[22]
- Wisconsin: David Kindig, a key thought leader in population health, is driving efforts to earn the designation of "healthiest state." The state earmarked 35% of monies realized from the sale of insurance stock to improve public health. Public health and **health policy** practitioners across the state are collaborating to assess population health status and to develop a plan to achieve health with less disparity.[23,24]

Both the Vermont and Wisconsin initiatives demonstrate that population health extends beyond health care. Achieving health and well-being at the individual, population, state, and national levels requires the collective efforts of healthcare providers, public health professionals, payers and health plans, employers, and policy makers.

THE EFFECT ON AND RESPONSE BY THE MARKETPLACE

There is a shared responsibility for population health. Although the cost burden of health care is shared among all constituents, the distribution of costs is not always proportionate. With more than 60% of Americans obtaining health insurance coverage through their employers, businesses have a substantial stake in their employees' health.[25] As healthcare costs continue to escalate, businesses are searching for strategies to decrease the cost of employee health benefits without compromising quality.

The health of its employees influences the economic health of a business—a healthy employee is more productive on the job and misses fewer days of work. The bottom line is that prevention generates a positive return on investment for employers. In 2009, an average of $3.27 in healthcare costs were saved for every dollar spent on employee wellness programs.[26] In this scenario everyone benefits—employees are healthier, businesses can operate more cost effectively through improved employee performance and reduced health benefits costs, and health plans reduce outlays for preventable morbidity. In some

cases, the productivity gains exceed the healthcare cost savings for employers.[27] Moreover, there is evidence that companies focusing on the health and safety of their workforces produce greater returns for their shareholders.[28] Worksites are an ideal venue for promoting health and wellness because consumers spend the majority of their time at work.

While the business case for promoting wellness is clear, competing priorities present a challenge in many organizations. Corporate cultures, investment costs, incentives for participation in the initiative, and employee underlying health behaviors are potential barriers to implementing a successful workplace wellness program. However, workplace programs may be effective in three major domains of health: promoting behavior change to prevent illness, supporting employees to self-manage existing chronic conditions, and assisting in the navigation of a complex and fragmented healthcare system.

Forty percent of premature deaths can be attributed to behavior. In fact, behavior is a key contributor to two of the leading causes of preventable death: obesity and smoking.[26] Workplace smoking cessation programs have been effective in mitigating risk for health effects of smoking, which cost employers $3,391 per smoker per year.[29] Employer involvement in health plan–supported disease management efforts or health advocacy programs provides employees with access to education and tools to properly manage their conditions and seek the most appropriate care. The best available evidence concerning employer sponsorship of health and wellness programs supports the premise that employees who are well provide the greatest benefit to their organization.[30,31]

THE POLITICS

Prevention, health, and wellness efforts must be supported by policy and regulation to advance the population health agenda. Building awareness is the first step toward making lasting change, followed by identifying population health needs and recognizing the importance of data and measurements on which causal inferences are based and actions are taken. For example, current rates of obesity and smoking in the United States represent needs that must be addressed through population-based initiatives.[27] Policies that drive population health efforts must be created at the local, state, and national levels to serve as the foundation of the population health infrastructure. Because implementation of population health improvement policies often requires significant resources, stakeholders face difficult decisions about priorities. Federal monies made health improvement initiatives possible in Vermont and Wisconsin.[22,23,24]

The healthcare workforce that will provide high-quality, population-based health care in the future must be trained now, and education reform is under way to ensure the competency of future leaders and practitioners in health care, public health, business, and health policy. Finally, research is needed to inform strategies to address population health approaches. Similar to the potential benefits of disease management and wellness initiatives realized by employers, policies that support health and wellness will also contribute to the wealth of the nation.

FRAMEWORKS FOR INNOVATION

A few key initiatives provide a framework for innovation that aspires to make population health efforts the norm rather than the exception. As in all industries, common goals and objectives and guidelines and standards in health care provide an understanding of expectations and drive efforts to provide safe, quality care.

HEALTHY PEOPLE 2020

Since 1979, the U.S. Department of Health and Human Services (HHS) has been leading efforts to promote health and prevent disease through identification of threats and implementation of mechanisms to reduce threats. *Healthy People* sets national health objectives for a 10-year period based on broad consensus and founded on scientific evidence.[32] *Healthy People 2020* contains 38 focus areas and four overarching goals:

1. Attaining high-quality, longer lives free of preventable disease, disability, injury, and premature death
2. Achieving health equity, eliminating disparities, and improving the health of all groups
3. Creating social and physical environments that promote good health for all
4. Promoting quality of life, healthy development, and healthy behaviors across all life stages[33]

The *Healthy People* objectives are used by public health professionals to drive community efforts based on defined needs. Containing both clinical and nonclinical measures, *Healthy People* also serves as a guide for population health efforts and a road map for interdisciplinary collaboration that leads to shared responsibility for health and wellness. Also important, it introduces the concept of cultural transformation and the benefits of leveraging social and physical environmental influences to elevate the health status of populations.

TRIPLE AIM

In 2007, the IHI launched the Triple Aim, providing an agenda for optimizing performance on three dimensions of care: the health of a defined population, the experience of care for individuals in the population, and the cost per capita for providing care for this population.[34] "Population" is defined by enrollment or inclusion in a registry. Groups of individuals defined by geography, condition, or other attributes can be considered a population if data are available to track them over time. At the core of this initiative are efforts to optimize value. A number of integrators across the United States are working to implement strategies to achieve the Triple Aim. At the macro level, integrators pool resources and make sure the system structure and processes support the needs of the population. At the micro level, integrators ensure that the most appropriate care is provided to patients with respect to overuse, underuse, and misuse.[35] To successfully achieve the Triple Aim, healthcare institutions and delivery systems must reduce hospitalizations,

apply resources to patient care that are commensurate with their needs, and build sustained relationships that are mindful of patient needs.[36] While a great deal of work remains to achieve optimal performance on the three objectives, the Triple Aim has built awareness and offers a framework for population health management.

NATIONAL PRIORITIES AND GOALS

Many groundbreaking reports have grabbed the public's attention and informed priorities for improvement, but few have set forth action plans to reach the goals. In this regard, the **National Priorities Partnership** (NPP) is unique. The NPP is a partnership of 52 major national organizations with a shared vision to achieve better health and a safe, equitable, and value-driven healthcare system.[36]

This collaborative was convened by the National Quality Forum and tasked with developing a set of national priorities and goals. Recognizing that "we must fundamentally change the ways in which we deliver care" to improve access to safe, effective, and affordable health care, the NPP envisioned a plan to achieve transformational change. The priorities were set with four key challenges in mind: eliminating harm, eradicating disparities, reducing disease burden, and removing waste. To address these challenges, six national priorities were established (in cooperation with the HHS) in September 2011:

1. Work with communities to promote wide use of best practices to enable healthy living and well-being
2. Promote the most effective prevention, treatment, and intervention practices for the leading causes of mortality, starting with cardiovascular disease
3. Ensure person- and family-centered care
4. Make care safer
5. Promote effective communication and care coordination
6. Make quality care more affordable for individuals, families, employers, and governments by developing and spreading new healthcare delivery models

To meet the first national priority and establish a population health framework, the NPP set forth the following questions that need to be addressed:

- How can individuals and multistakeholder groups come together to address community health improvement?
- Which individuals and organizations should be at the table?
- What processes and methods should communities use to assess their health?
- What data are available to assess, analyze, and address community health needs and to measure improvement?
- What incentives exist that can drive alignment and coordination to improve community health?
- How can communities advance more affordable care by achieving greater alignment, efficiency, and cost savings?

Achieving this national priority requires that health and wellness be fostered at the community level through a partnership between public health agencies, healthcare purchasers, and healthcare systems. The goal is to promote preventive services, healthy lifestyle behaviors, and measurement based on a national index to assess health status.[37] These priorities and projects will continue to spur action and innovation and serve as a model for population health improvement.

PREVENTIVE STRATEGIES AND PILLARS OF POPULATION HEALTH

To achieve the ambitious goal of improving the U.S. healthcare system, we must be prepared to broaden our current focus beyond acute, episodic health care. This implies a collective commitment to incorporating population-based primary and secondary prevention strategies—as citizens and as healthcare providers—as well as better coordinating care for those suffering from chronic illnesses to mitigate complications, also known as tertiary prevention.
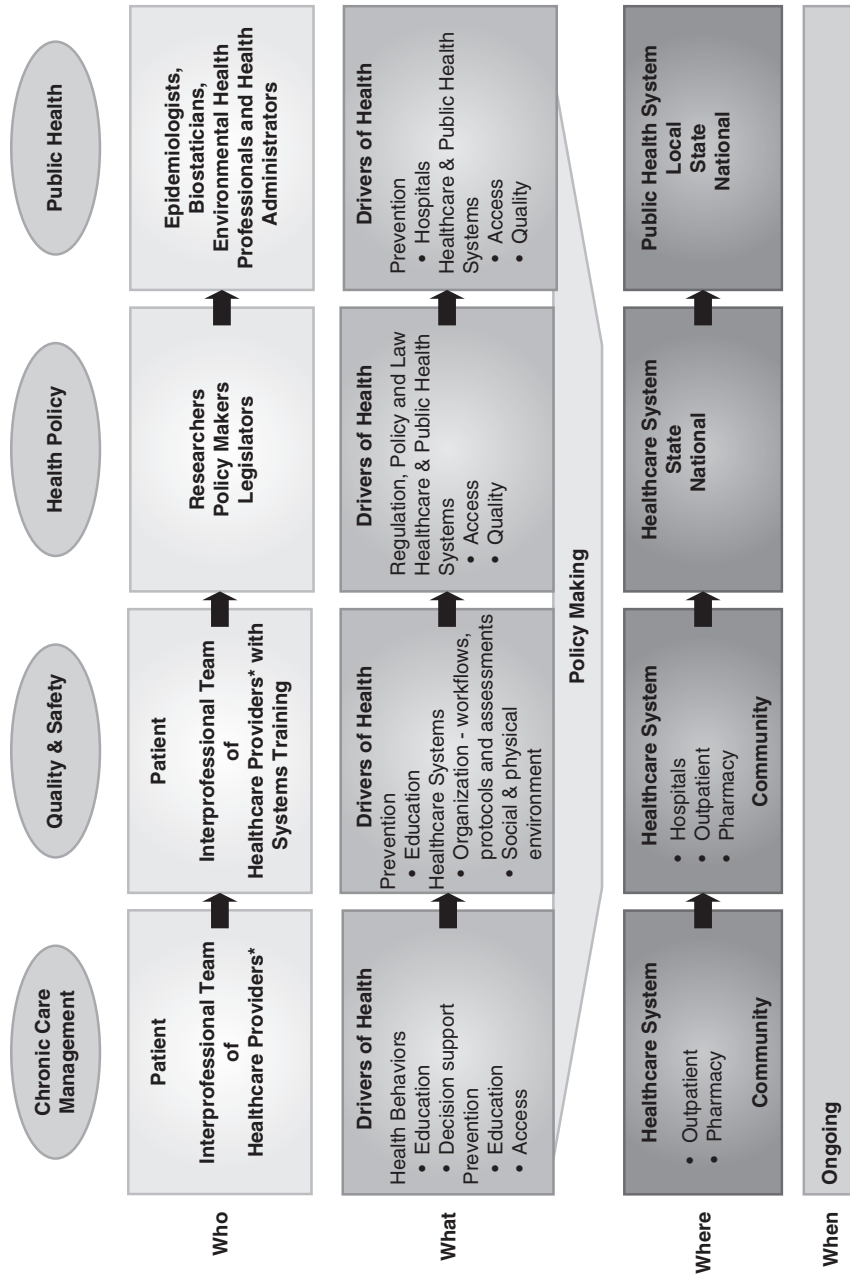
PREVENTIVE STRATEGIES

National experts and policy analysts agree that focusing on primary prevention strategies (e.g., health promotion and wellness activities) will ultimately improve the overall health of citizens and decrease the costs associated with overmedicalization. Three lifestyle modifications—eliminating and reducing tobacco use, eating healthy foods with portion control, and increasing regular physical activity—are consistently identified in population-based epidemiologic research as most likely to reduce the prevalence of chronic conditions. Utilizing secondary preventive services (e.g., cancer screenings, blood pressure and cholesterol monitoring, health counseling) promotes early detection of disease. Secondary prevention strategies seek to reduce barriers to early treatment or completion of therapy, thereby improving treatment outcomes and reducing disease chronicity. Detecting an early stage breast cancer during mammography and initiating treatment is an example of secondary prevention.

Tertiary prevention focuses on minimizing disease complications and comorbidities through appropriate, evidence-based treatment and—critical to reducing healthcare costs—by coordinating and providing continuity of care for chronic conditions. This is best accomplished by incorporating the Chronic Care Model into healthcare systems and monitoring disease-specific indicators to ensure quality care and maximize quality of life for patients and their families.[30] Prevention and disease management are integral to maintaining population health and encouraging wellness. All healthcare professionals have a role to play.

THE FOUR PILLARS

Population health rests on four pillars (Figure 1-2):

- Care management
- Quality and safety

**Figure 1-2 The four pillars of population health.**

Data from Booske BC, Kindig DA, Nelson H, Remington PL. What Works? Policies and Programs for a Healthier Wisconsin—Draft. University of Wisconsin Population Health Institute; January 2009.

* An interprofessional team of healthcare providers includes both clinical (physicians, nurses, pharmacists, allied health professionals, dentists, radiologists) and nonclinical (healthcare administrators, quality, safety, and public health professionals) professionals.

- Public health
- Health policy

The interaction between each of these pillars in education and practice lays the foundation for achieving population health goals and strategies (Figure 1-3). National statistics show that only 55% of U.S. adults receive recommended preventive care, acute care, and care for chronic conditions, such as hypertension (high blood pressure) and diabetes.[11]

CARE MANAGEMENT

This fact alone signals a need for collective patient, provider, public health, employer, health plan, and policy maker efforts to improve health and wellness. Given the large proportion of the population suffering from chronic conditions, it is clear that care coordination must be improved across the many settings where care is delivered and that evidence-based clinical management and effective self-management must be actively promoted. Behavior and prevention play important roles in chronic care management. Access to screening and counseling for chronic conditions is integral to successful treatment. Education is another key component in chronic care management because treatment decisions need to be made jointly by the patient and the provider. Patients' understanding of their diseases and treatment options is essential for well informed healthcare decisions
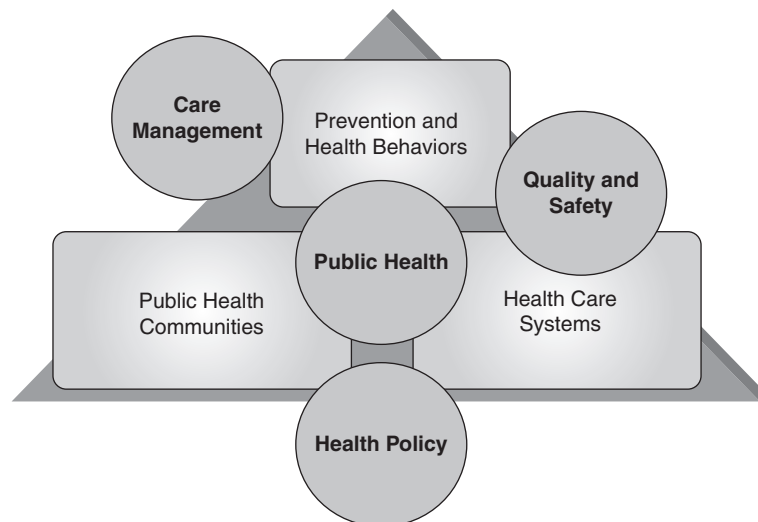
Public health communities and healthcare systems serve as the foundation on which the population health infrastructure rests. Healthcare providers, researchers, policy makers, legislators and public health professionals who work in the public health communities and healthcare systems partner with patients to focus on prevention and healthy behaviors. Professionals in chronic care management, quality and safety, public health, and health policy must work together to develop a framework to prevent conditions that burden the population both physically and economically. Interdisciplinary collaboration will strengthen the foundation of the population health infrastructure and lead to improved population health management.

Figure 1-3   An interdisciplinary model for population health.

and adherence to treatment. In combination, these efforts support quality of life and function, contribute to the health of populations, and reduce the use of costly acute care for preventable problems arising from poorly managed chronic illness.

QUALITY AND SAFETY

Quality and safety improvement rely on "activated" patients and provider teams that are motivated to examine the structure and organization of healthcare delivery and rectify the processes or workflows that lead to errors. Since the 1999 Institute of Medicine report, *To Err Is Human*, a number of national and professional organizations have identified best practices and made recommendations on how to design systems and processes to make healthcare safer.[38] Synergy between these groups will be integral to achieving gains in quality and safety. Local, state, and national public health efforts must support and complement the work being done in local healthcare institutions. The resulting public attention and awareness of quality and safety goals can serve to activate consumers.

PUBLIC HEALTH AND HEALTH POLICY

Through interaction with communities and healthcare institutions, public health professionals serve as educators and advocates. The third pillar, public health, provides a framework for identifying health determinants, health disparities, and disease burden and for implementing strategies to address community-wide health concerns. As the fourth pillar, policy efforts support population-focused care management, quality and safety, and public health (e.g., policy support in pay-for-performance initiatives that drive adoption of community-wide quality and safety standards). Taken a step further, making comparison data available for other healthcare constituents and consumers (i.e., transparency) creates a sense of accountability for performance and an impetus for improvement. Future policy changes supporting transparency and public accountability for health and wellness will be necessary to meet the population health promise. Taken together, the population health goals, strategies, and implementation tactics associated with the four pillars of care management, quality and safety, public health, and health policy will drive population health efforts to achieve health and wellness.

CONCLUSION

The United States is faced with many issues in health care, and the strategies used to address both existing and emerging challenges will determine the future health status of our nation. To improve the health of the nation, our focus must shift from health care that is reactive to health care that is proactive and promotes health and wellness.[30] Although population needs have been identified in current literature, a reproducible, population health action plan has yet to be established to address them. In the words of Goethe, "Knowing is not

enough; we must apply. Willing is not enough; we must do."[39] It will require the collective efforts of many to truly create transformational change. This chapter is intended to prime readers for further exploration of population health efforts to promote health and wellness. In effect, it is a statement of population health's promise as well as a call to action.

STUDY AND DISCUSSION QUESTIONS

1. What is population health?
2. Why is a population health approach needed to promote health and wellness?
3. How do the four pillars of population health work together to improve population health?
4. What is your role in population health?

SUGGESTED READINGS AND WEBSITES

READINGS

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WEBSITES

Dartmouth Atlas of Health Care: http://www.dartmouthatlas.org/

The Population Health Alliance: http://www.populationhealthalliance.org/

Institute for Healthcare Improvement: http://www.ihi.org/ihi

National Priorities Partnership: http://www.qualityforum.org/Setting_Priorities/NPP/National_Priorities_Partnership.aspx

Partnership to Fight Chronic Disease: http://www.fightchronicdisease.org/

Triple Aim: http://www.ihi.org/Engage/Initiatives/TripleAim/pages/default.aspx

Trust for America's Health: http://healthyamericans.org/report/61/shortchanging09

Understanding the U.S. Public Health System: http://www.cahpf.org/godocuserfiles/207.chi brief united states.pdf

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